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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,010	03/25/2002	Byung-Ik Ahn	38779/245435	5295

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EXAMINER

KIM, WESLEY LEO

ART UNIT PAPER NUMBER

2683

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/089,010

Applicant(s)

AHN ET AL.

Examiner

Wesley L. Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/6/02, 5/19/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to Amendment filed on 4/13/05.

- Claim 1 is amended.
- Claims 7-12 are added.
- Claims 1-12 are pending in the instant office action.

### *Response to Arguments*

1. Applicant's arguments with respect to claim 1-7 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (U.S. Patent 6714799 B1) in view of Panzer (U.S. Patent 5619491).

Regarding claim 1, Park et al discloses a subscriber identity module (SIM) cardholder for installing or uninstalling a SIM card of a global system for mobile communications (GSM) service subscriber (Fig.3:62, Col.4:57-61 a subscriber can insert a card into the CDMA terminal therefore, it is inherent that a cardholder of some sort exists), wherein when a SIM card of a GSM service

subscriber is installed in the SIM cardholder in the CDMA service area (Col.6;19-24), specific data are transmitted using a CDMA message (Fig.8) in the case of authenticating the GSM service subscriber using information on the GSM service subscriber stored in the SIM card (Col.6;40-45), and when the authentication of the GSM service subscriber is normally completed, the CDMA terminal is used for the GSM service subscriber as a roaming service terminal in the CDMA service area (Col.8;5-12), however Park **is silent on** the CDMA message being a CDMA data burst message.

Panzer teaches a CDMA transmission system which compresses words (i.e. messages) into data bursts to minimize the necessary bandwidth (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Park, such that the CDMA message is a CDMA data burst, to provide a very flexible transmission system, which minimizes the use of bandwidth in transmitting data (i.e. messages).

Regarding claims 2, the combination as discussed above teaches all the limitations as discloses in claim 1, and Park further teaches a wireless signal transmitter for transmitting and receiving wireless signals (Fig.3;22); a mobile station modem (MSM) connected to the wireless signal transmitter, for controlling the CDMA terminal (Fig.3;26); a SIM interface (Fig.3;60) for communicating data between the MSM and the SIM cardholder; a speaker for outputting speech data output by the MSM to a CDMA terminal user in a speech format (Fig.3;36); a microphone for converting the speech input by the CDMA terminal user into

speech data, and outputting them to the MSM (Fig.3;36); a liquid crystal display (LCD) connected to the MSM, for displaying information to the CDMA terminal user (Fig.3;38 to one of ordinary skill in the art it is inherent that the display of a CDMA terminal is a liquid crystal display); a key input unit for receiving a key input of the CDMA terminal user, and transmitting it to the MSM; and a memory connected to the MSM, for storing various data.

Regarding claim 3, Park et al discloses all the limitations as disclosed in claim 1 in addition to a modem (Fig.3;44) for demodulating signals output by the wireless signal transmitter according to the CDMA protocol, modulating the signals according to the CDMA protocol, and outputting them to the wireless signal transmitter (Col.4;24-28); a de-interleaver and decoder for de-interleaving and decoding the signals output by the modem (Col.4;30-34); a speech signal processor for performing speech processing on the signals output by the de-interleaver and decoder, outputting them to the speaker as digital speech data, performing signal processing on the speech data input by the microphone, and outputting them (Col.4;37-47); an interleaver and encoder for interleaving and encoding the signals output by the speech signal processor (Fig.3;50); and a controller for controlling the modem, the de-interleaver and decoder, the speech signal processor, the interleaver and encoder, the LCD, the key input unit, and the memory (Fig.3;42).

2. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (U.S. Patent No. 6714799 B1) in view of Grilli et al (U.S Patent No. 6438117 B1).

Regarding claim 4, Park et al discloses all the limitations as disclosed in claim 2 however, Park **is silent on** the other limitations of claim 4.

Grilli et al teaches a duplexer (Fig.2B;70) for transmitting and receiving wireless signals through an antenna, and assigning a path of the transmitted and received signals; a wireless receiver (Fig.2B;72) for performing signal processing on the wireless signals transmitted by the duplexer, and outputting them to the MSM (Fig.2B;59 inspection of fig.2B obviously depicts signals processed in 74 sent to the MSM); and a wireless transmitter for performing signal processing on the wireless signals output by the MSM, and outputting them to the duplexer (Fig.2B;59 inspection of fig.2B obviously depicts signals processed in 66 sent to the duplexer). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a duplexer in a CDMA terminal which provides roaming service to a GSM service subscriber in a CDMA service area because it allows isolation of the receiver from the transmitter while permitting them to share a common antenna therefore, the terminal won't be weighed down by the implementation of additional antennas.

3. Claims 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (U.S. Patent No. 6714799 B1) in view of Tayloe (U.S. Patent 5987325).

Regarding claim 5, Park et al discloses the cardholder can install or uninstall the SIM card of the GSM service subscriber (Fig.3:62, Col.4:57-61 a subscriber can insert a card into the CDMA terminal therefore, it is obvious that a cardholder of some sort exists), and the card interface (Fig.3:60) can detect

whether the SIM card is installed in the cardholder, and when the card interface detects that the SIM card of the GSM service subscriber is installed in the cardholder in the CDMA service area (Col.6:19-24), specific data are transmitted using a CDMA message in the case of authenticating the GSM service subscriber using information of the GSM service subscriber stored in the SIM card (Col.6:40-45), and when the authentication of the GSM service subscriber is normally completed, the CDMA terminal operates as a roaming terminal for the GSM service subscriber in the CDMA service area (Col.8:5-12), however, Park **does not teach** a cardholder for installing and uninstalling a user identity module (UIM) of a CDMA service subscriber; and a card interface for detecting whether a UIM card is installed in the cardholder, wherein when the card interface detects that the UIM card of the CDMA service subscriber is installed in the cardholder in the CDMA service area, the CDMA service subscriber can use the CDMA service.

Taylor teaches of a mobile phone with multiple subscriber (SIM) cards (Abstract) and with the multiple SIM cards, each SIM card may have associated with it several allowed networks (Col.4:39-41, i.e. GSM CDMA). To the examiner this reads on the limitations since it is well known in the art that SIM cards are the same as UIM cards. Taylor teaches multiple SIM (i.e. UIM) cards exist on one mobile device to access different networks, and it would not be beyond the scope of one skilled in the art to envision having one SIM/UIM slot for a mobile device so that the SIM/UIM cards may be switched in and out of the mobile device to

access the different networks, however this actually more laborious for the user and could result in a lost or damaged SIM/UM cards, having multiple SIM/UM cards on one device is more advantageous than having to switch out a card for a different card, and therefore it would be obvious for one skilled in the art to envision one slot being used for different cards.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Park, such that the mobile device has one single slot for multiple SIM/UM cards to access various networks, to provide an alternate method of accessing multiple networks for mobile phones without the capability to support multiple SIM/UM cards simultaneously.

Regarding claim 6, the combination as discussed above teaches all the limitations as discloses in claim 5, and Park further teaches a wireless signal transmitter for transmitting and receiving wireless signals (Fig.3:22); a mobile station modem (MSM) connected to the wireless signal transmitter, for controlling the CDMA terminal (Fig.3:26); a speaker for outputting speech data output by the MSM to a CDMA terminal user in a speech format (Fig.3:36); a microphone for converting the speech input by the CDMA terminal user into speech data, and outputting them to the MSM (Fig.3:36); a liquid crystal display (LCD) connected to the MSM, for displaying information to the CDMA terminal user (Fig.3:38 to one of ordinary skill in the art it is inherent that the display of a CDMA terminal is a liquid crystal display); a key input unit for receiving a key input of the CDMA



terminal user, and transmitting it to the MSM; and a memory connected to the MSM, for storing various data.

Regarding Claim 7, the combination as discussed above teaches all the limitations as recited in claim 5, however the combination is silent on the card interface comprising a circuit for detecting whether a UIM card or a SIM card is installed in the cardholder.

The examiner notes that the difference between a UIM card and a SIM card is that they provide access to different networks. Tayloe teaches a phone with multiple SIMs' providing more than one network to the user (Col.4:39-41). The mobile phone detects the networks associated with each card and utilizes the card providing the most favorable network in the current location so it is obvious that the mobile device detects what types of cards are inside of it (Col.4:41-47). One of ordinary skill in the art would envision that a mobile phone with one slot for inserting different cards to access different networks would have the capability of detecting what type of card was installed in the cardholder by determining what network is available to them via the current SIM/UIM card.

4. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (U.S. Patent 6714799 B1) in view of Kulkarni et al (U.S. Patent 5862481).

Regarding Claim 8, Park et al (Park) teaches a system for permitting for providing code division multiple access (CDMA) service to a global system for mobile communications (GSM) subscriber in a service area of a CDMA network in instances in which a subscriber identity module (SIM) of the GSM subscriber

has been installed in a CDMA terminal within the service area of the CDMA network. (Col.2;14-19), however Park **is silent on** the system comprising an international roaming gateway system (IRGS) for connecting a GSM network of the GSM subscriber and the CDMA network, wherein the IRGS is configured to function both as a visitor location register (VLR) for the GSM network and as a home location register (HLR) for the CDMA network.

Kulkarni et al teaches an international roaming gateway system (IRGS) (Fig.1;ILR) for connecting a GSM network (Fig.2; i.e. home system) of the GSM subscriber and the CDMA network (Fig.2; i.e. serving system), wherein the IRGS is configured to function both as a visitor location register (VLR) for the GSM network (Col.2;18-20 VLR for Home System, i.e. GSM) and as a home location register (HLR) for the CDMA network (Col.2;18-20 HLR for serving system, i.e. CDMA).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Park, such that the system comprises an international roaming gateway system (IRGS) for connecting a GSM network of the GSM subscriber and the CDMA network, wherein the IRGS is configured to function both as a visitor location register (VLR) for the GSM network and as a home location register (HLR) for the CDMA network so that the CDMA and GSM communication systems are able to communicate with each other.

Regarding Claim 9, the combination as taught above teach all of the limitations as recited in claim 8, and Kulkarni further teaches the IRGS is

configured to receive a location registration request from the CDMA terminal (Col.2;28-32) that includes an international mobile subscriber identity (IMSI) identifying the SIM of the GSM subscriber (Col.9;57-65).

Regarding Claim 10, the combination as discussed above teach all the limitations as recited in claim 9, and Park further teaches the IRGS is configured to requests an authentication parameter from the GSM network (Col.2;32-37, the ILR (i.e. IRGS) authenticates the roaming terminal upon receiving a parameter of some type, one of ordinary skill in the art would envision the ILR requesting the parameter).

Kulkarni teaches an authentication message identifies the terminal by its IMSI (Col.10;40-44).

Regarding Claim 12, the combination as discussed above teach all the limitations as recited in claim 9, and Kulkarni further teaches wherein the IRGS determines and stores a reserved mobile identity number (TMIN) in response to receipt of the IMSI (Col.9;Table 2A).

2. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (U.S. Patent 6714799 B1) and Kulkarni et al (U.S. Patent 5862481) in further view of Brown et al (U.S. Patent 5537474).

Regarding Claim 11, Park and Kulkarni teach all the limitations as recited in claim 10, however the combination **is silent on** the authentication parameter comprising an SRES parameter and a RAND parameter, wherein the IRGS is configured to provide the RAND parameter to the CDMA terminal and to receive

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another SRES parameter from the CDMA terminal in response to the provision of the RAND parameter, and wherein the IRGS is configured to compare the SRES parameters in order to verify the GSM subscriber.

Kulkarni teaches the IGP generates RAND and calculates SRES

(Col.10:44-47)

Brown teaches when a subscriber unit is placed in its home system (i.e. CDMA system) the HLR (i.e. IRGS which acts as an HLR and VLR) will generate a RAND and send it to the subscriber unit (i.e. cdma terminal). At the same the HLR will calculate a SRES using the RAND. The subscriber unit calculates SRES and using the received RAND will forward the SRES to the HLR for comparison. If there is a match then service is allowed to proceed (Col.5:45-62).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination such that authentication parameters SRES and RAND are utilized to authenticate a subscriber, to provide a method of authenticating roaming subscribers with their original home system even when located in a visited system.

### ***Conclusion***

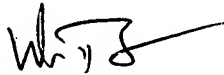
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley L Kim whose telephone number is 703-605-4319. The examiner can normally be reached on Monday-Friday 8:00am-4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WLK



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